

# POWER DIVIDER

DC to 18.0 GHz

11636A



AUGUST 1984

 **HEWLETT  
PACKARD**

## **CERTIFICATION**

*Hewlett-Packard Company certifies that this product met its published specifications at the time of shipment from the factory. Hewlett-Packard further certifies that its calibration measurements are traceable to the United States National Bureau of Standards, to the extent allowed by the Bureau's calibration facility, and to the calibration facilities of other International Standards Organization members.*

## **WARRANTY**

This Hewlett-Packard instrument product is warranted against defects in material and workmanship for a period of one year from date of shipment. During the warranty period, Hewlett-Packard Company will, at its option, either repair or replace products which prove to be defective.

For warranty service or repair, this product must be returned to a service facility designated by HP. Buyer shall prepay shipping charges to HP and HP shall pay shipping charges to return the product to Buyer. However, Buyer shall pay all shipping charges, duties, and taxes for products returned to HP from another country.

HP warrants that its software and firmware designated by HP for use with an instrument will execute its programming instructions when properly installed on that instrument. HP does not warrant that the operation of the instrument, or software, or firmware will be uninterrupted or error free.

## **LIMITATION OF WARRANTY**

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance by Buyer, Buyer-supplied software or interfacing, unauthorized modification or misuse, operation outside of the environmental specifications for the product, or improper site preparation or maintenance.

**NO OTHER WARRANTY IS EXPRESSED OR IMPLIED. HP SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

## **EXCLUSIVE REMEDIES**

**THE REMEDIES PROVIDED HEREIN ARE BUYER'S SOLE AND EXCLUSIVE REMEDIES. HP SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY.**

## **ASSISTANCE**

*Product maintenance agreements and other customer assistance agreements are available for Hewlett-Packard products.*

*For any assistance, contact your nearest Hewlett-Packard Sales and Service Office. Addresses are provided at the back of this manual.*

From DC to 18.0 GHz, the HP 11636A provides excellent output power symmetry between the two output ports. Low temperature and power coefficients ensure attenuation stability. Each power divider is calibrated at four frequencies, and this data is provided on a sticker that is permanently attached to the unit.

Stable interface dimensions, which ensure long life and a high repeatability of insertion loss, are provided by injection molded interface connector insulators that maintain concentricity.

Any port may be used as an input, as the HP 11636A provides a symmetrical 6 dB division. The HP 11636A can be used as a power combiner. When signals are input at two of the ports, the sum of the two appears at the third.

### *Specifications*

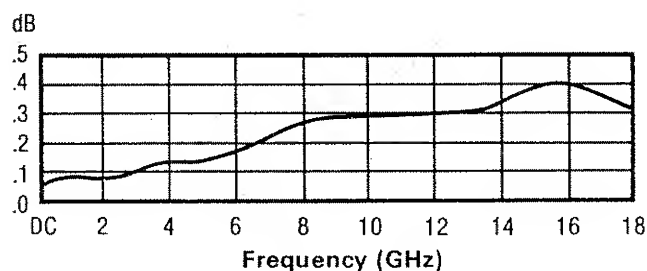
**MAXIMUM INPUT POWER:** 1W CW, 1 kW peak (5 msec pulse width).

**FREQUENCY RANGE:** DC to 18.0 GHz.

**INPUT/OUTPUT SWR:** DC to 10.0 GHz: 1.25  
10.0 to 18.0 GHz: 1.35

**TRACKING BETWEEN OUTPUT ARMS:**

| Frequency Range (GHz) | Tracking (dB) |
|-----------------------|---------------|
| DC to 4.0             | 0.2           |
| 4.0 to 10.0           | 0.4           |
| 10.0 to 18.0          | 0.5           |

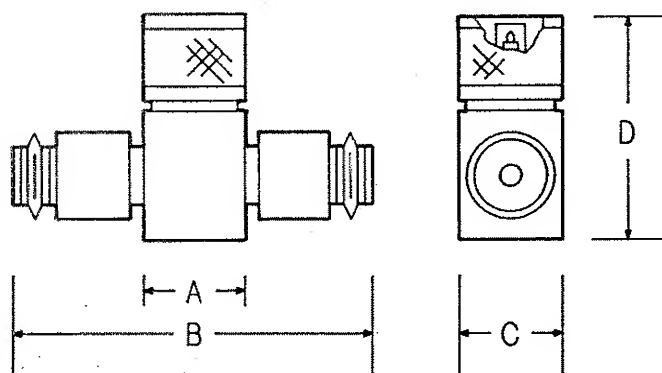


Typical Tracking Between Output Arms

**CALIBRATION DATA:** Insertion loss at DC, 6.0, 12.0 and 18.0 GHz (data is supplied on a permanently attached sticker).

**NUMBER OF PORTS:** Three.

**CONNECTORS:** One Type-N male, two Type-N female.

*Specifications (Cont'd)***DIMENSIONS:**

**NOTE:**  
Dimensions are  
given in (cm) inches  
and are maximum  
unless otherwise  
specified.

| Dim. A     | Dim. B      | Dim. C     | Dim. D      |
|------------|-------------|------------|-------------|
| (1.96) .77 | (4.45) 1.75 | (1.75) .69 | (4.17) 1.64 |

*Supplemental Characteristics*

**INSERTION LOSS: (Input to One Output Port):** 6 dB (−0.2 dB, +1.2 dB maximum to 10.0 GHz; +1.5 dB maximum to 18.0 GHz).

**TYPICAL PHASE TRACKING:**  $\pm 2^\circ$  between output ports.

**POWER COEFFICIENT:** <0.0005 dB/dB/W

**TEMPERATURE COEFFICIENT:** <0.0001 dB/dB/°C



